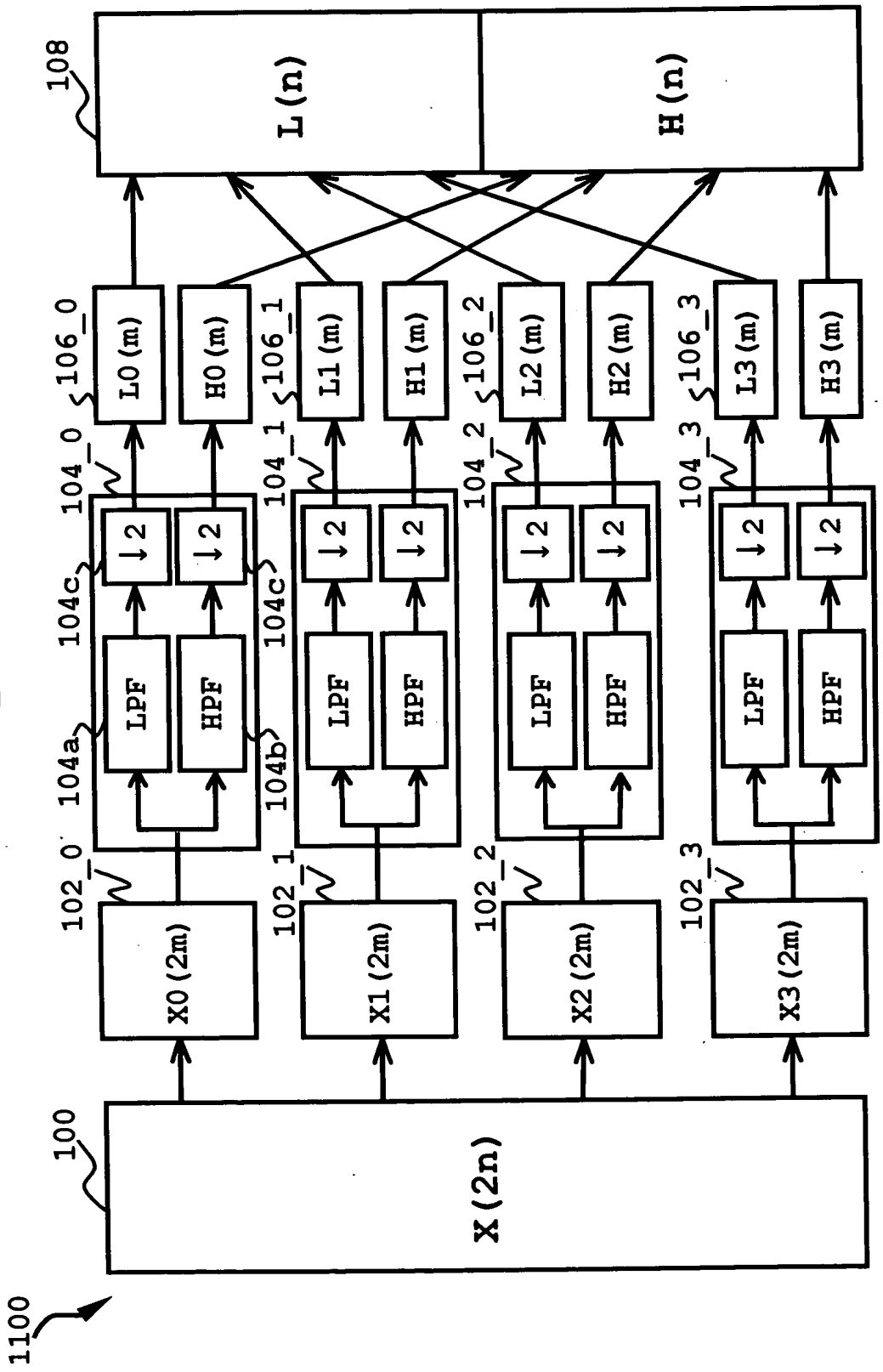

1100
100
X (2n)
102_0
X0 (2m)
102_1
X1 (2m)
102_2
X2 (2m)
102_3
X3 (2m)
104_0
104_1
104_2
104_3
104a
104b
104c
LPF
HPF
↓2
106_0
L0 (m)
H0 (m)
106_1
L1 (m)
H1 (m)
106_2
L2 (m)
H2 (m)
106_3
L3 (m)
H3 (m)
108
L (n)
H (n)

Fig. 1

09/674,149 PCT/SE99/00459

Fig. 2

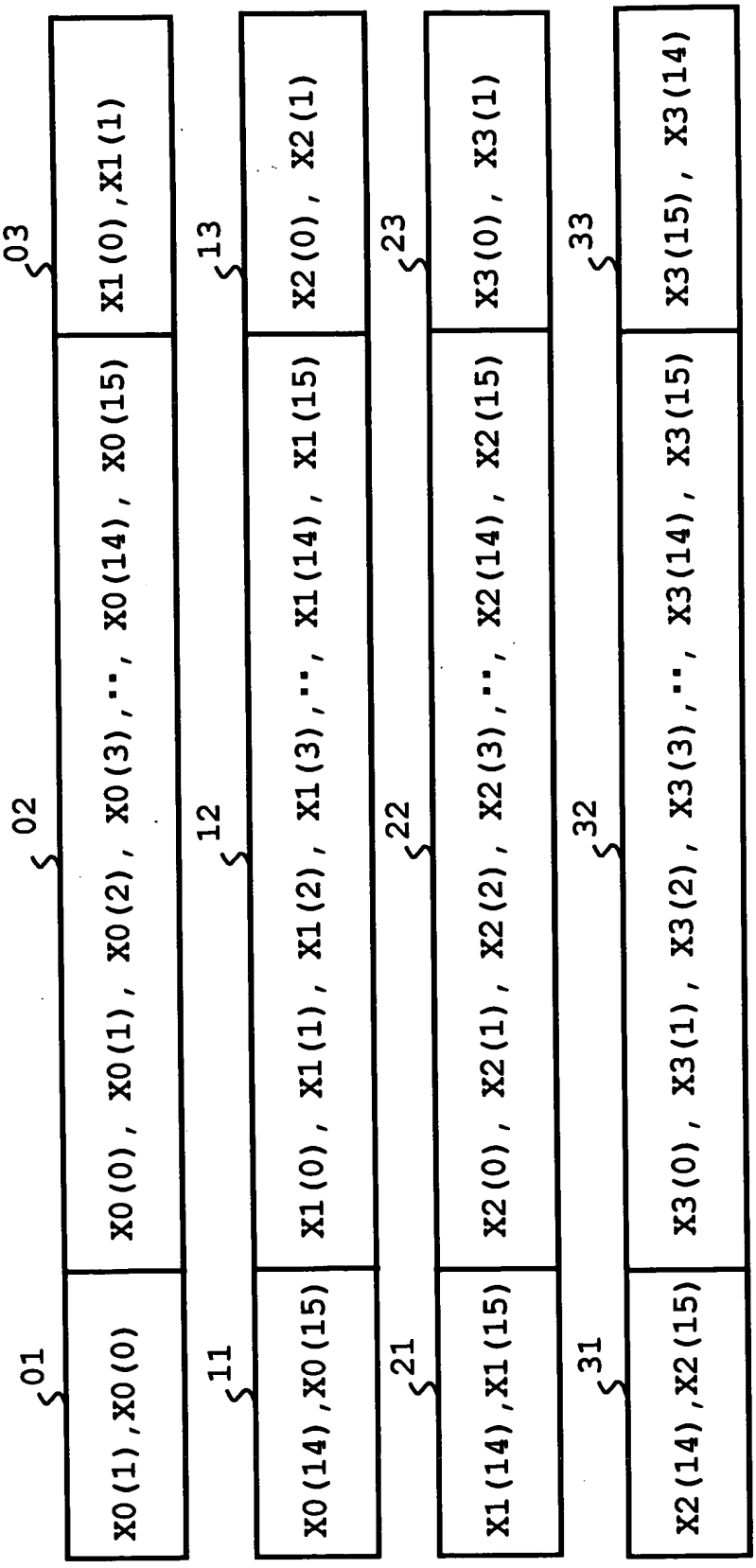


Fig. 3

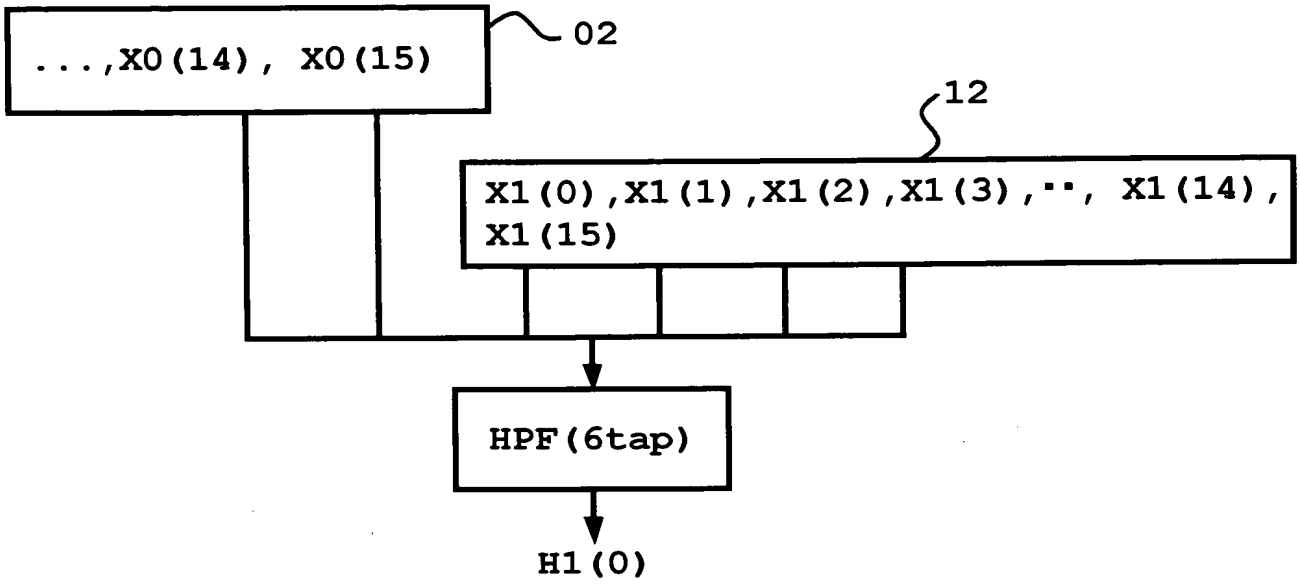
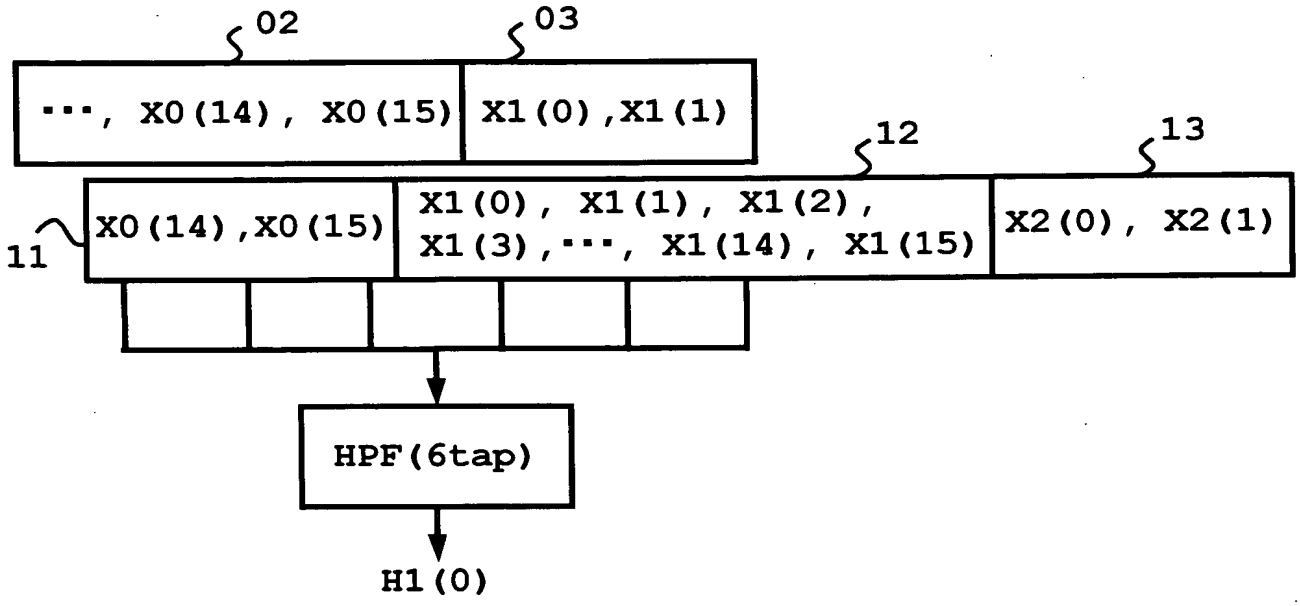

...,X0(14), X0(15)
02
12
X1(0),X1(1),X1(2),X1(3),··, X1(14),
X1(15)
HPF(6tap)
H1(0)

Fig. 4


02
03
···, X0(14), X0(15)
X1(0),X1(1)
12
13
11
X0(14),X0(15)
X1(0), X1(1), X1(2),
X1(3),···, X1(14), X1(15)
X2(0), X2(1)
HPF(6tap)
H1(0)

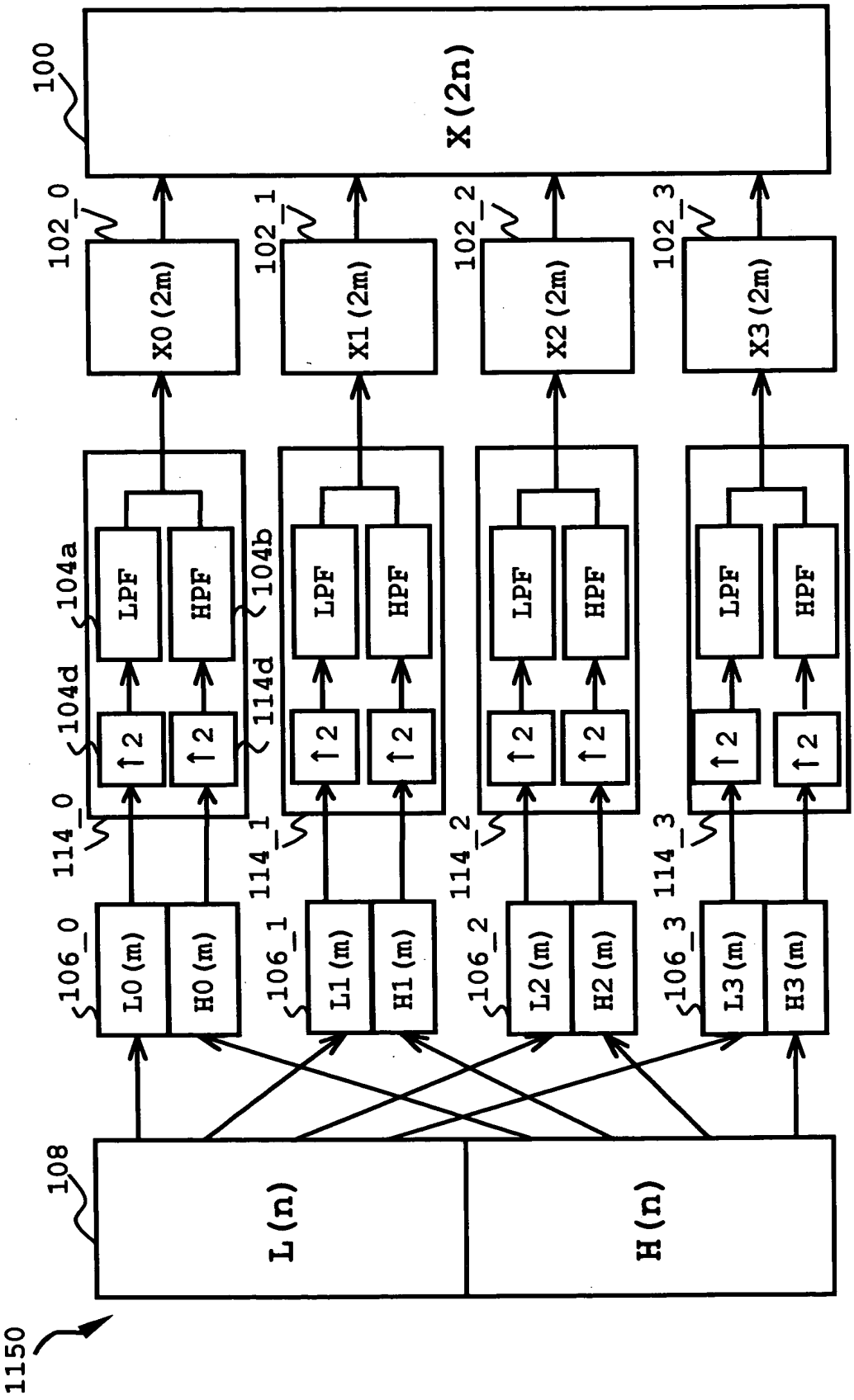

1150
108
L(n)
H(n)
106_0
L0(m)
H0(m)
106_1
L1(m)
H1(m)
106_2
L2(m)
H2(m)
106_3
L3(m)
H3(m)
114_0
114_1
114_2
114_3
104d
114d
↑2
104a
104b
LPF
HPF
102_0
X0(2m)
102_1
X1(2m)
102_2
X2(2m)
102_3
X3(2m)
100
x(2n)

Fig. 5

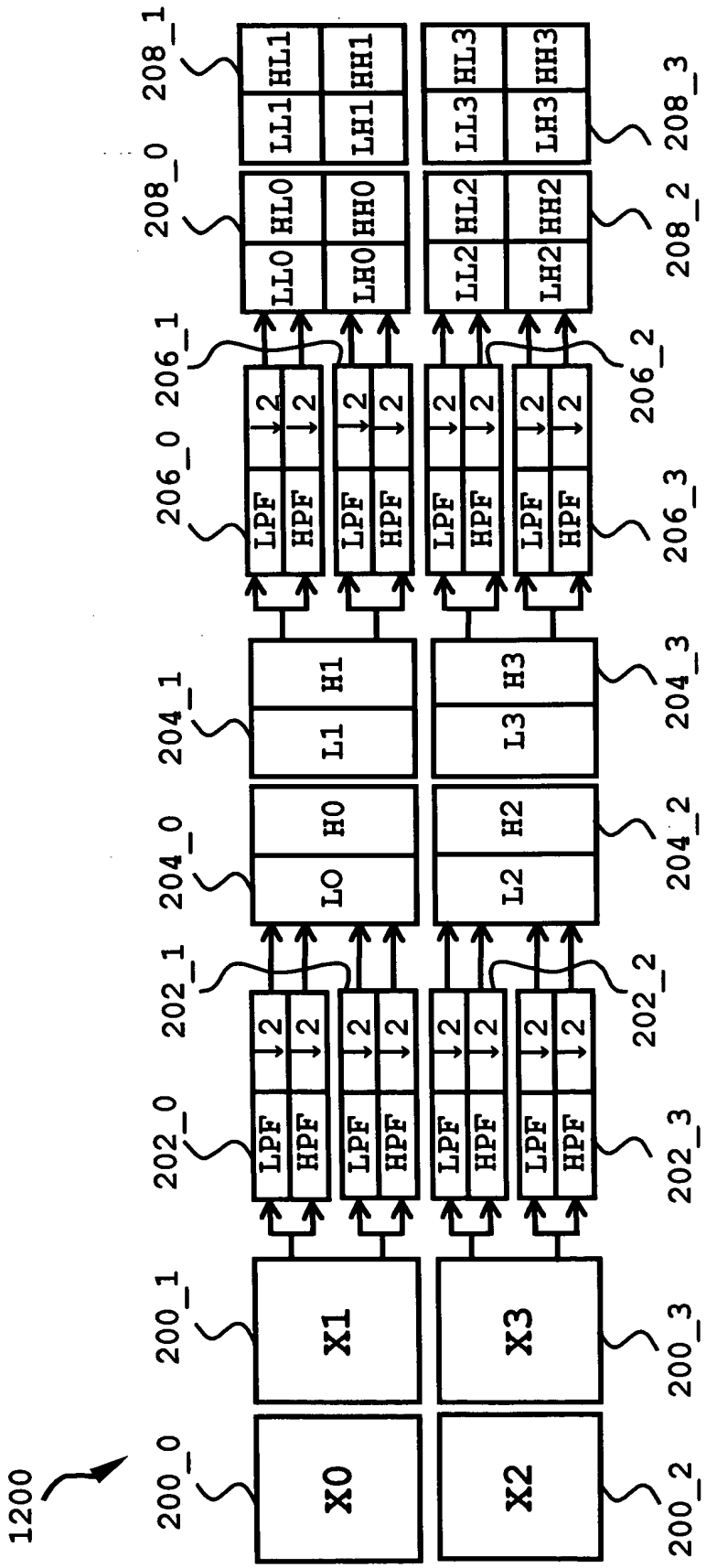

1200
200_0
X0
200_1
X1
200_2
X2
200_3
X3
202_0
LPF
HPF
↓2
↓2
202_1
202_2
202_3
204_0
LO
H0
204_1
L1
H1
204_2
L2
H2
204_3
L3
H3
206_0
206_1
206_2
206_3
208_0
LL0
HL0
LH0
HH0
208_1
LL1
HL1
LH1
HH1
208_2
LL2
HL2
LH2
HH2
208_3
LL3
HL3
LH3
HH3

Fig. 6

Fig. 7

00,01,02,03,04,05,06,07	08,09,0a,0b,0c,0d,0e,0f
10,11,12,13,14,15,16,17	18,19,1a,1b,1c,1d,1e,1f
20,21,22,23,24,25,26,27	28,29,2a,2b,2c,2d,2e,2f
30,31,32,33,34,35,36,37	38,39,3a,3b,3c,3d,3e,3f
40,41,42,43,44,45,46,47	48,49,4a,4b,4c,4d,4e,4f
50,51,52,53,54,55,56,57	58,59,5a,5b,5c,5d,5e,5f
60,61,62,63,64,65,66,67	68,69,6a,6b,6c,6d,6e,6f
70,71,72,73,74,75,76,77	78,79,7a,7b,7c,7d,7e,7f
80,81,82,83,84,85,86,87	88,89,8a,8b,8c,8d,8e,8f
90,91,92,93,94,95,96,97	98,99,9a,9b,9c,9d,9e,9f
a0,a1,a2,a3,a4,a5,a6,a7	a8,a9,aa,ab,ac,ad,ae,af
b0,b1,b2,b3,b4,b5,b6,b7	b8,b9,ba,bb,bc,bd,be,bf
c0,c1,c2,c3,c4,c5,c6,c7	c8,c9,ca,cb,cc,cd,ce,cf
d0,d1,d2,d3,d4,d5,d6,d7	d8,d9,da,db,dc,dd,de,df
e0,e1,e2,e3,e4,e5,e6,e7	e8,e9,ea,eb,ec,ed,ee,ef
f0,f1,f2,f3,f4,f5,f6,f7	f8,f9,fa,fb,fc,fd,fe,ff

09/760,756

Fig. 8

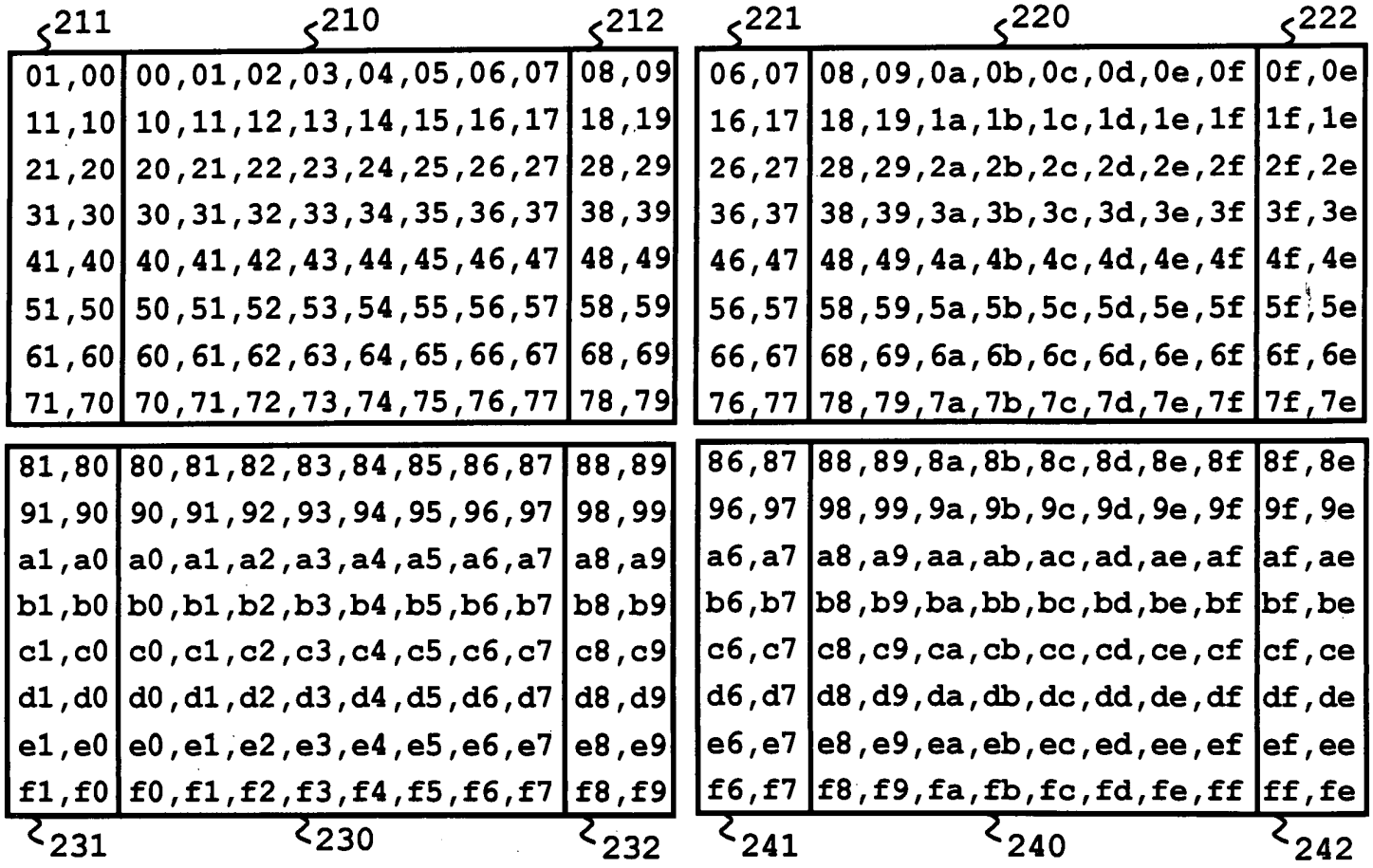


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Fig. 9

L00	L01	L02	L03	H00	H01	H02	H03
L10	L11	L12	L13	H10	H11	H12	H13
L20	L21	L22	L23	H20	H21	H22	H23
L30	L31	L32	L33	H30	H31	H32	H33
L40	L41	L42	L43	H40	H41	H42	H43
L50	L51	L52	L53	H50	H51	H52	H53
L60	L61	L62	L63	H60	H61	H62	H63
L70	L71	L72	L73	H70	H71	H72	H73

L04	L05	L06	L07	H04	H05	H06	H07
L14	L15	L16	L17	H14	H15	H16	H17
L24	L25	L26	L27	H24	H25	H26	H27
L34	L35	L36	L37	H34	H35	H36	H37
L44	L45	L46	L47	H44	H45	H46	H47
L54	L55	L56	L57	H54	H55	H56	H57
L64	L65	L66	L67	H64	H65	H66	H67
L74	L75	L76	L77	H74	H75	H76	H77

L80	L81	L82	L83	H80	H81	H82	H83
L90	L91	L92	L93	H90	H91	H92	H93
La0	La1	La2	La3	Ha0	Ha1	Ha2	Ha3
Lb0	Lb1	Lb2	Lb3	Hb0	Hb1	Hb2	Hb3
Lc0	Lc1	Lc2	Lc3	Hc0	Hc1	Hc2	Hc3
Ld0	Ld1	Ld2	Ld3	Hd0	Hd1	Hd2	Hd3
Le0	Le1	Le2	Le3	He0	He1	He2	He3
Lf0	Lf1	Lf2	Lf3	Hf0	Hf1	Hf2	Hf3

L84	L85	L86	L87	H84	H85	H86	H87
L94	L95	L96	L97	H94	H95	H96	H97
La4	La5	La6	La7	Ha4	Ha5	Ha6	Ha7
Lb4	Lb5	Lb6	Lb7	Hb4	Hb5	Hb6	Hb7
Lc4	Lc5	Lc6	Lc7	Hc4	Hc5	Hc6	Hc7
Ld4	Ld5	Ld6	Ld7	Hd4	Hd5	Hd6	Hd7
Le4	Le5	Le6	Le7	He4	He5	He6	He7
Lf4	Lf5	Lf6	Lf7	Hf4	Hf5	Hf6	Hf7

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Fig. 10

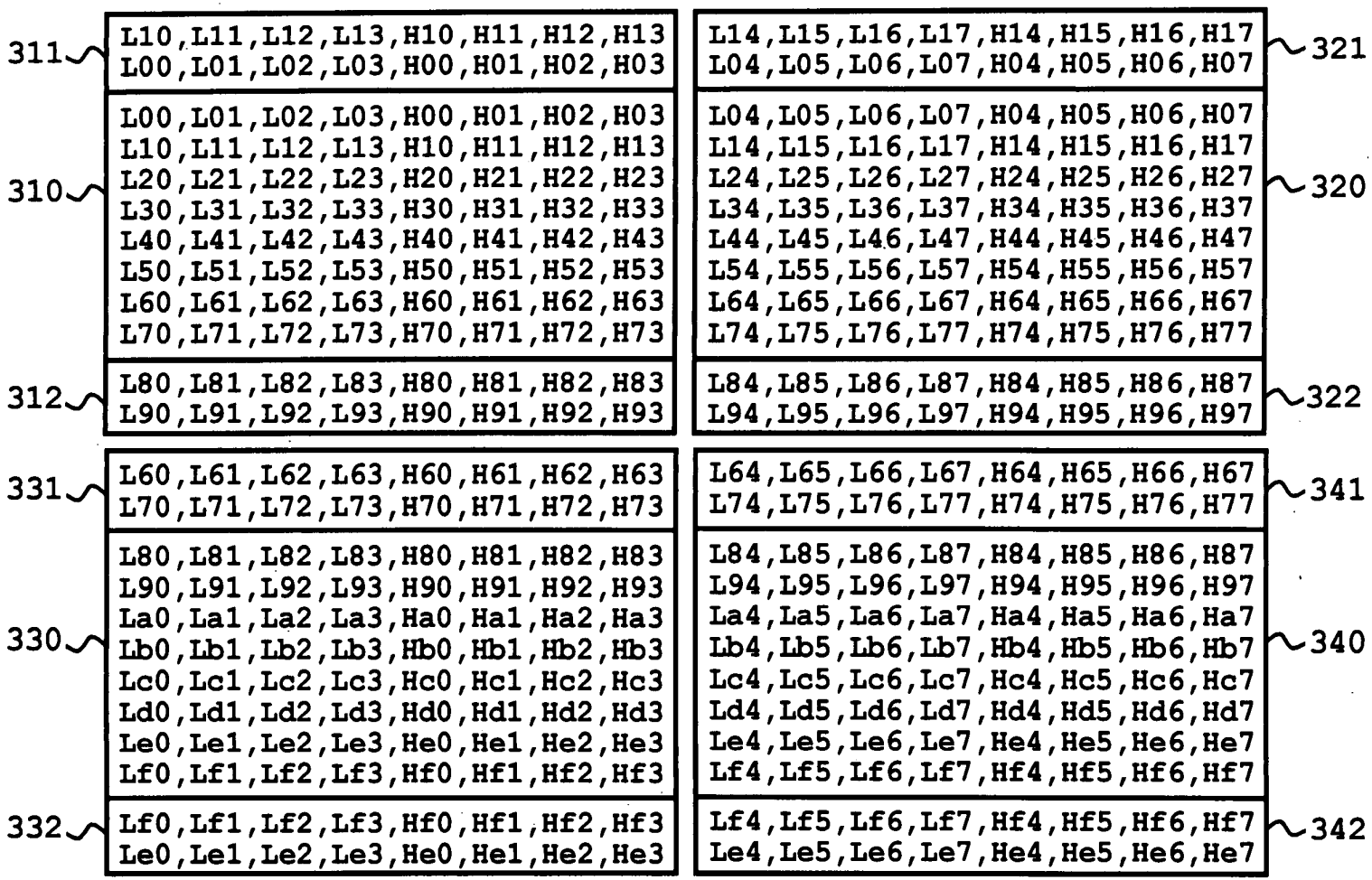

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Fig. 11

LL00	LL01	LL02	LL03	HL00	HL01	HL02	HL03
LL10	LL11	LL12	LL13	HL10	HL11	HL12	HL13
LL20	LL21	LL22	LL23	HL20	HL21	HL22	HL23
LL30	LL31	LL32	LL33	HL30	HL31	HL32	HL33
LH00	LH01	LH02	LH03	HH00	HH01	HH02	HH03
LH10	LH11	LH12	LH13	HH10	HH11	HH12	HH13
LH20	LH21	LH22	LH23	HH20	HH21	HH22	HH23
LH30	LH31	LH32	LH33	HH30	HH31	HH32	HH33

LL04	LL05	LL06	LL07	HL04	HL05	HL06	HL07
LL14	LL15	LL16	LL17	HL14	HL15	HL16	HL17
LL24	LL25	LL26	LL27	HL24	HL25	HL26	HL27
LL34	LL35	LL36	LL37	HL34	HL35	HL36	HL37
LH04	LH05	LH06	LH07	HH04	HH05	HH06	HH07
LH14	LH15	LH16	LH17	HH14	HH15	HH16	HH17
LH24	LH25	LH26	LH27	HH24	HH25	HH26	HH27
LH34	LH35	LH36	LH37	HH34	HH35	HH36	HH37

LL40	LL41	LL42	LL43	HL40	HL41	HL42	HL43
LL50	LL51	LL52	LL53	HL50	HL51	HL52	HL53
LL60	LL61	LL62	LL63	HL60	HL61	HL62	HL63
LL70	LL71	LL72	LL73	HL70	HL71	HL72	HL73
LH40	LH41	LH42	LH43	HH40	HH41	HH42	HH43
LH50	LH51	LH52	LH53	HH50	HH51	HH52	HH53
LH60	LH61	LH62	LH63	HH60	HH61	HH62	HH63
LH70	LH71	LH72	LH73	HH70	HH71	HH72	HH73

LL44	LL45	LL46	LL47	HL44	HL45	HL46	HL47
LL54	LL55	LL56	LL57	HL54	HL55	HL56	HL57
LL64	LL65	LL66	LL67	HL64	HL65	HL66	HL67
LL74	LL75	LL76	LL77	HL74	HL75	HL76	HL77
LH44	LH45	LH46	LH47	HH44	HH45	HH46	HH47
LH54	LH55	LH56	LH57	HH54	HH55	HH56	HH57
LH64	LH65	LH66	LH67	HH64	HH65	HH66	HH67
LH74	LH75	LH76	LH77	HH74	HH75	HH76	HH77

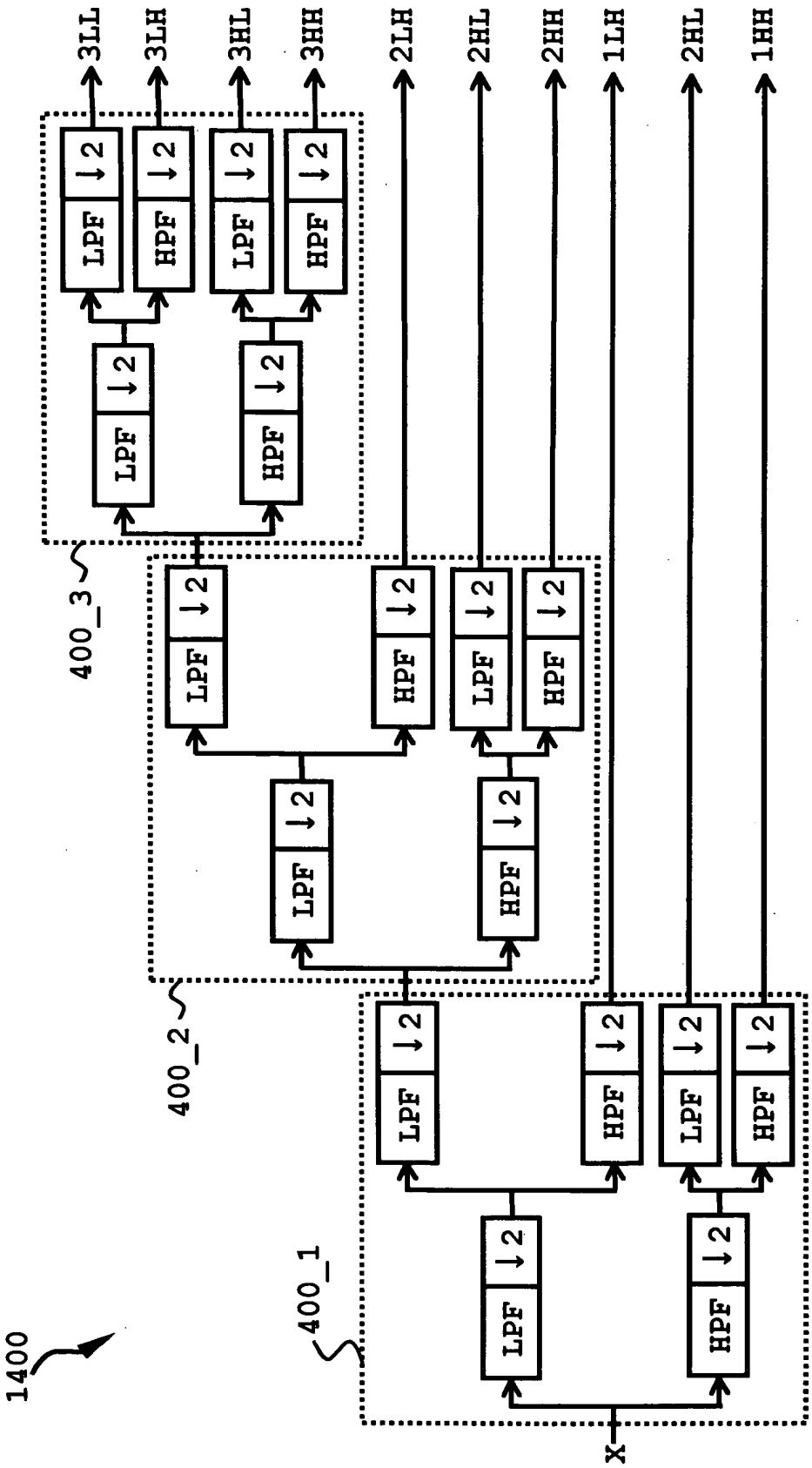
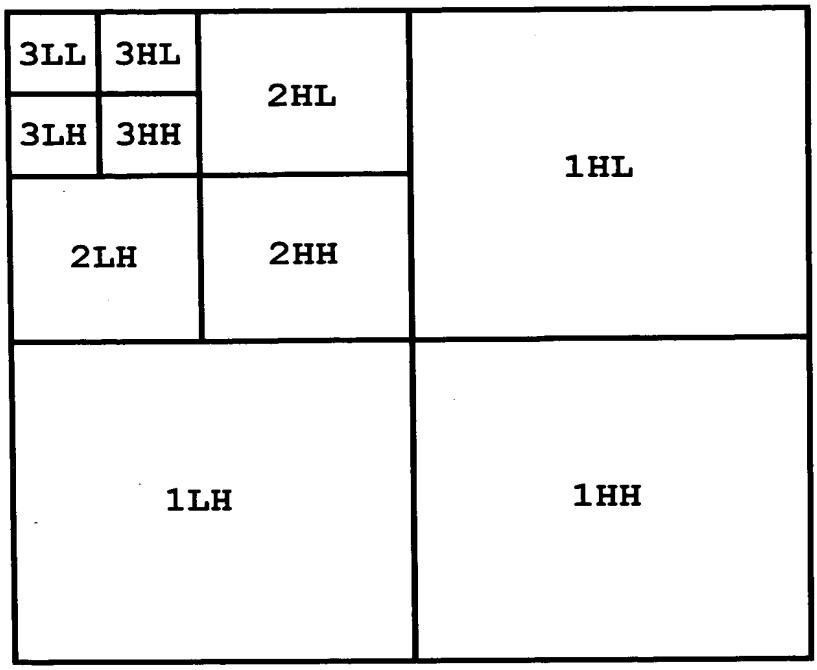

1400
X
400_1
400_2
400_3
LPF
HPF
↓2
1HH
2HL
1LH
2HH
2HL
2LH
3HH
3HL
3LH
3LL

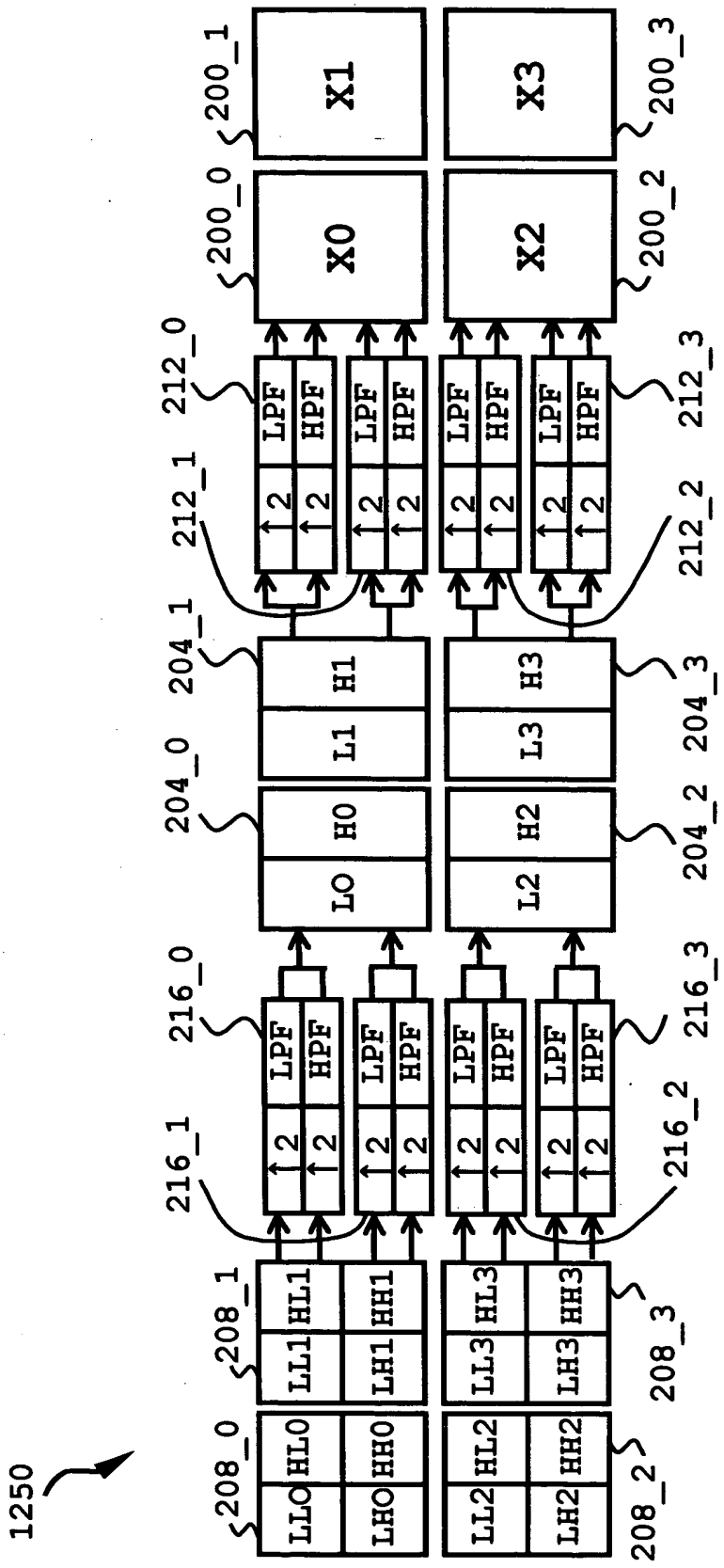
Fig. 12

Fig. 13



09/445,250

Fig. 14



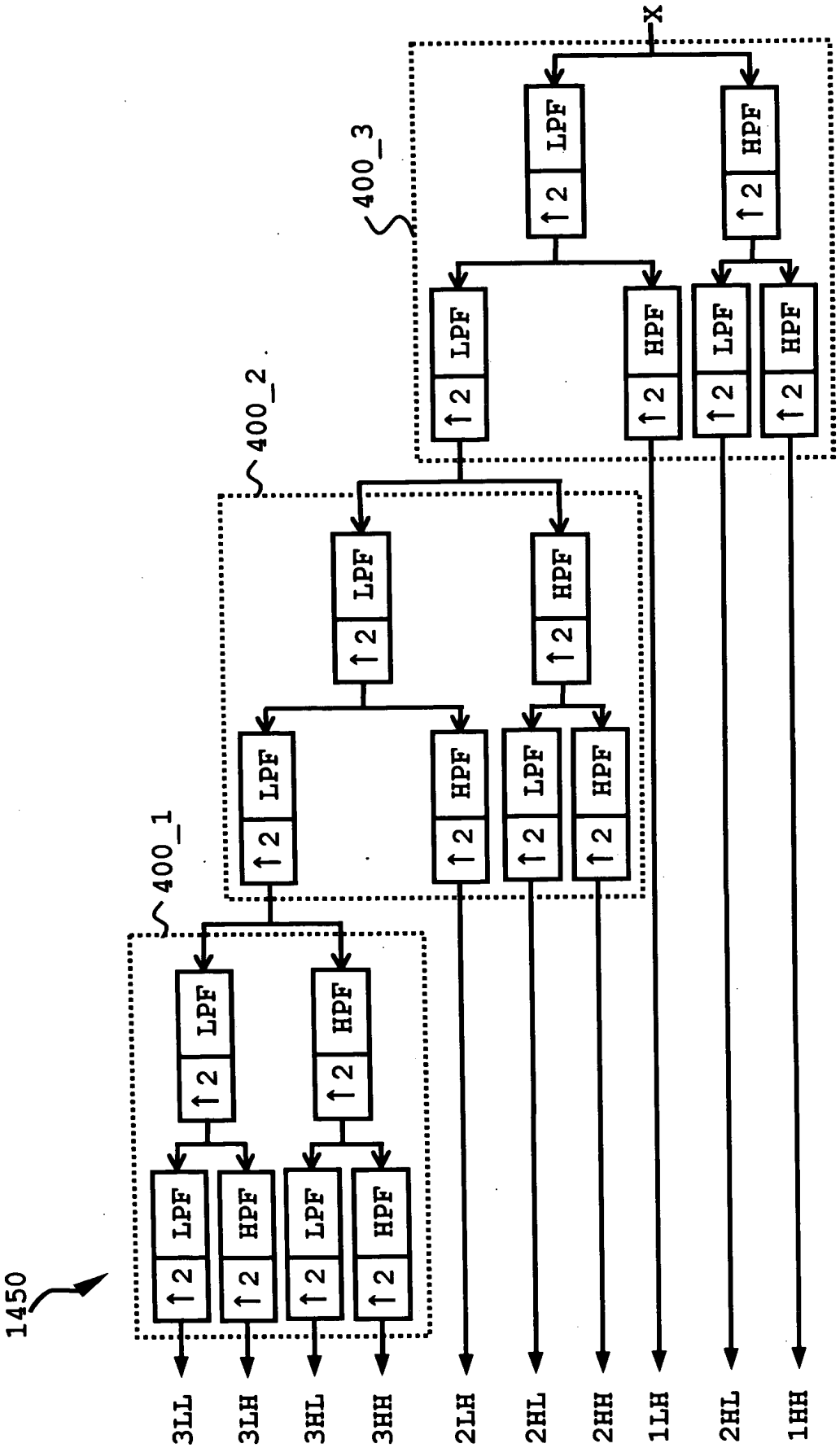

X
400_3
400_2
400_1
1450
LPF
HPF
↑2
3LL
3LH
3HL
3HH
2LH
2HL
2HH
1LH
2HL
1HH

Fig. 15

Fig. 16

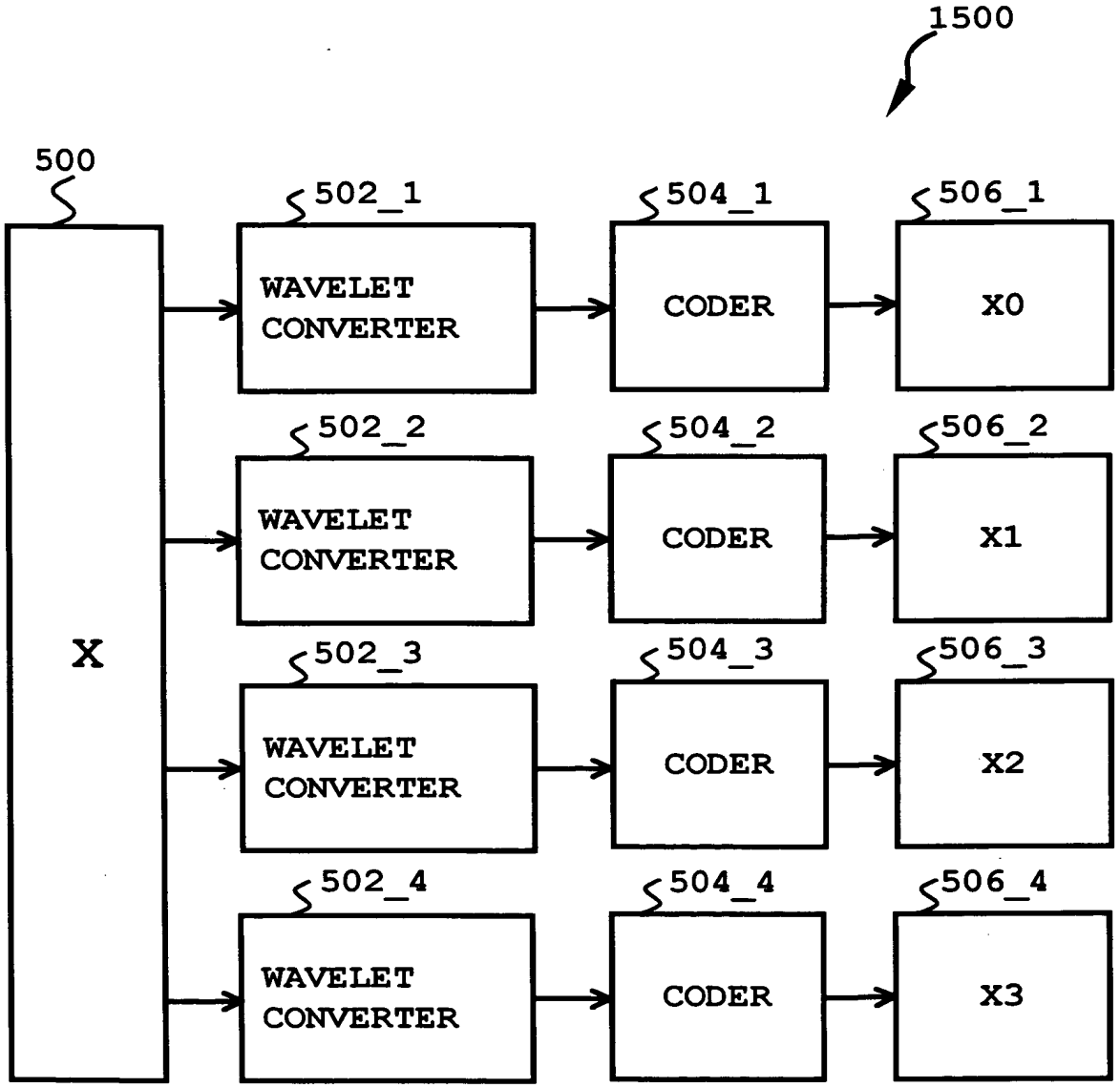

1500
500
X
502_1
WAVELET CONVERTER
504_1
CODER
506_1
X0
502_2
WAVELET CONVERTER
504_2
CODER
506_2
X1
502_3
WAVELET CONVERTER
504_3
CODER
506_3
X2
502_4
WAVELET CONVERTER
504_4
CODER
506_4
X3

Fig. 17

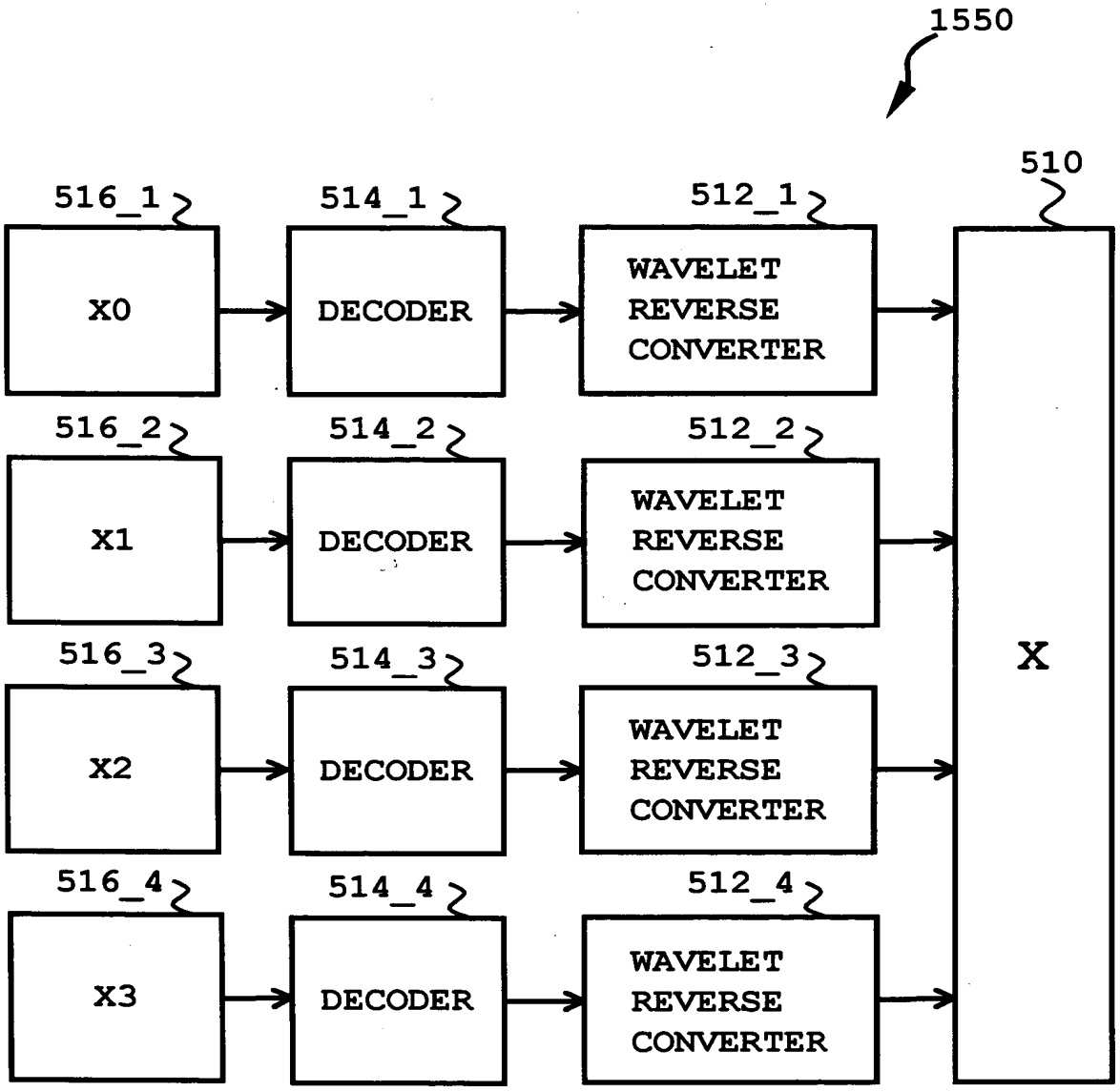

1550
510
516_1
514_1
512_1
X0
DECODER
WAVELET REVERSE CONVERTER
516_2
514_2
512_2
X1
DECODER
WAVELET REVERSE CONVERTER
516_3
514_3
512_3
X2
DECODER
WAVELET REVERSE CONVERTER
516_4
514_4
512_4
X3
DECODER
WAVELET REVERSE CONVERTER
X

Fig. 18

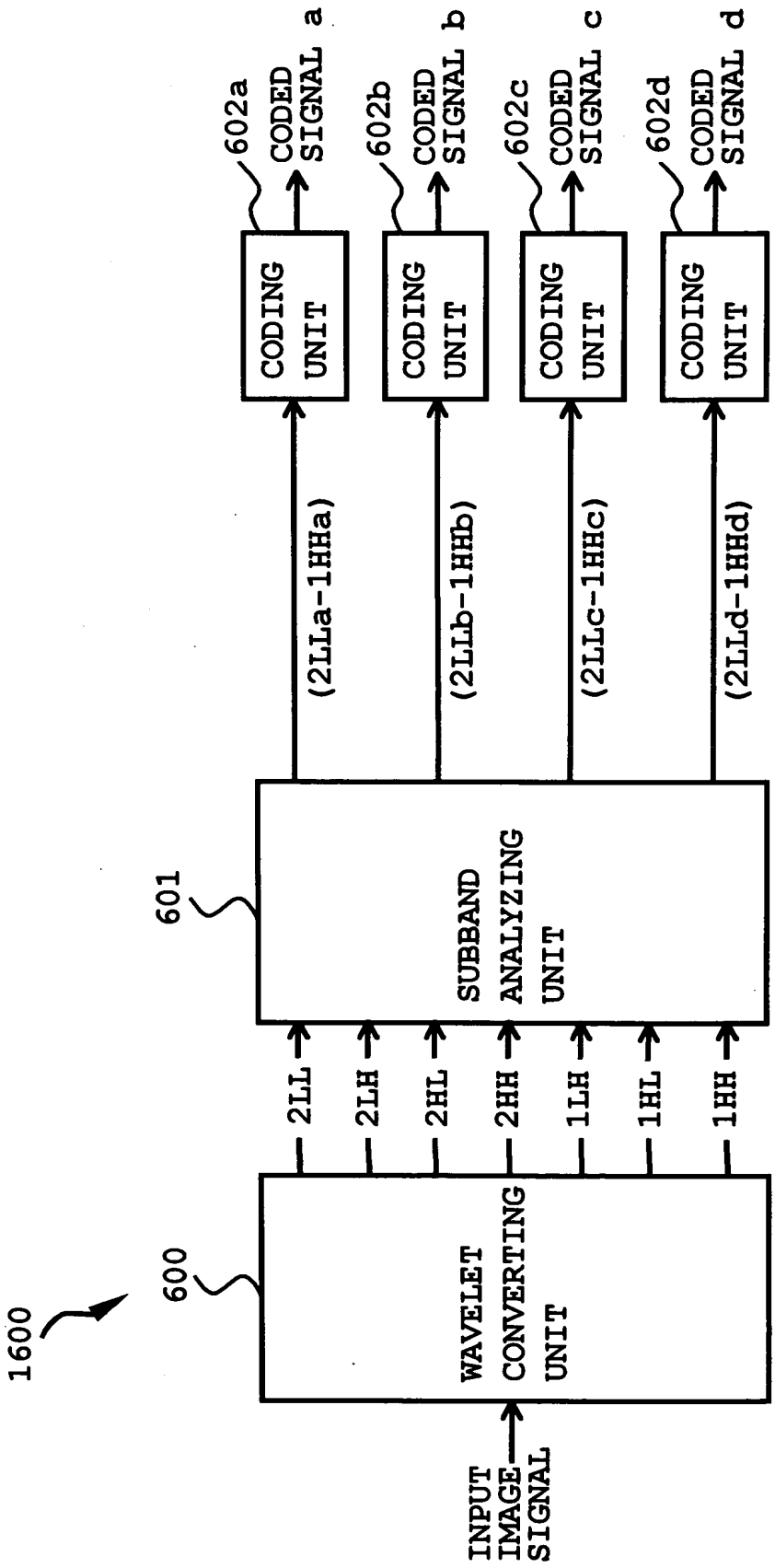

1600
600
WAVELET CONVERTING UNIT
INPUT IMAGE SIGNAL
2LL
2LH
2HL
2HH
1LH
1HL
1HH
601
SUBBAND ANALYZING UNIT
(2LLa-1HHa)
(2LLb-1HHb)
(2LLc-1HHc)
(2LLd-1HHd)
CODING UNIT
CODING UNIT
CODING UNIT
CODING UNIT
602a CODED SIGNAL a
602b CODED SIGNAL b
602c CODED SIGNAL c
602d CODED SIGNAL d

Fig. 19

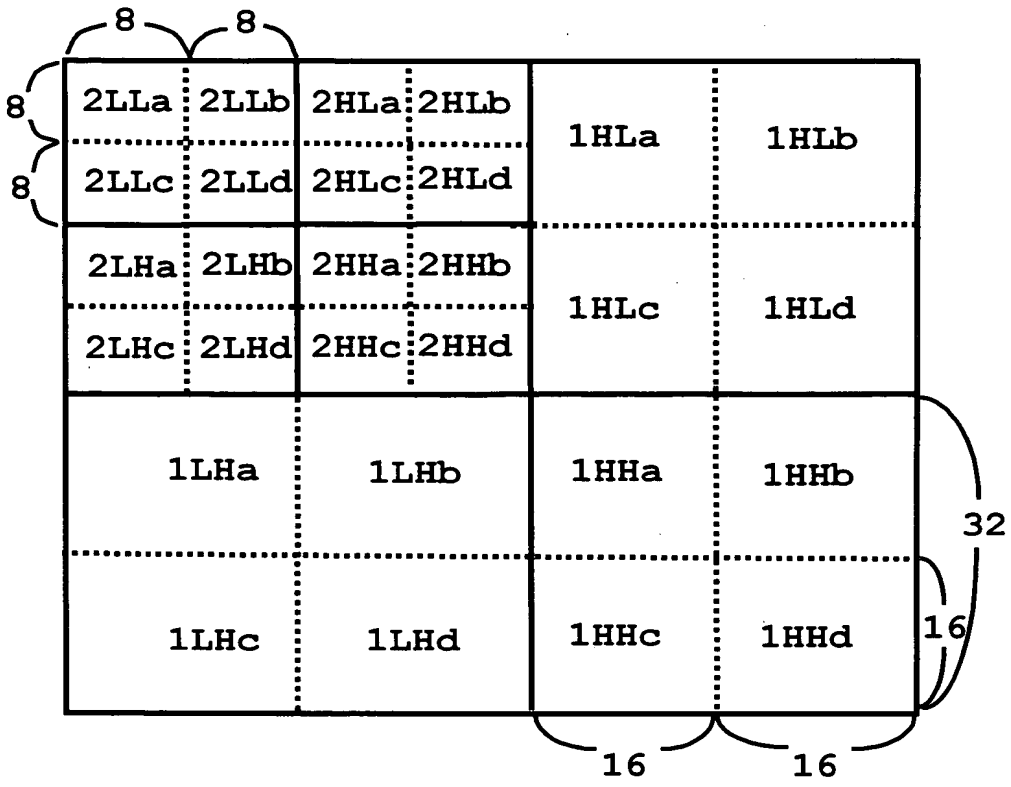

8
8
8
8
2LLa
2LLb
2HLa
2HLb
2LLc
2LLd
2HLc
2HLd
1HLa
1HLb
2LHa
2LHb
2HHa
2HHb
2LHc
2LHd
2HHc
2HHd
1HLc
1HLd
1LHa
1LHb
1HHa
1HHb
1LHc
1LHd
1HHc
1HHd
32
16
16
16

Fig. 20

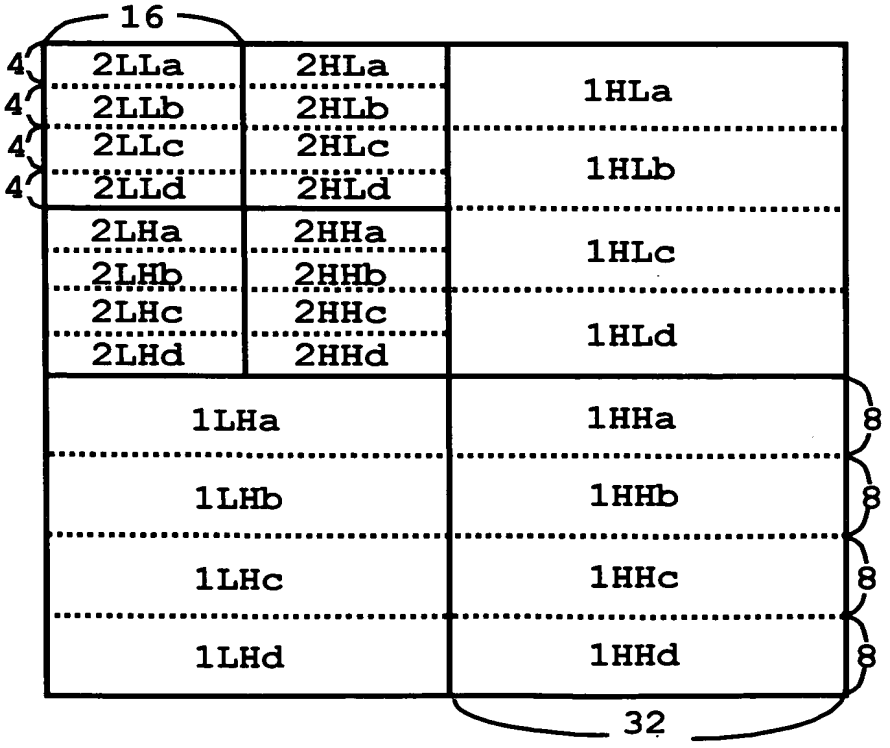

16
4
4
4
4
2LLa
2HLa
2LLb
2HLb
2LLc
2HLc
2LLd
2HLd
1HLa
1HLb
2LHa
2HHa
2LHb
2HHb
2LHc
2HHc
2LHd
2HHd
1HLc
1HLd
1LHa
1HHa
1LHb
1HHb
1LHc
1HHc
1LHd
1HHd
8
8
8
8
32

Fig. 21

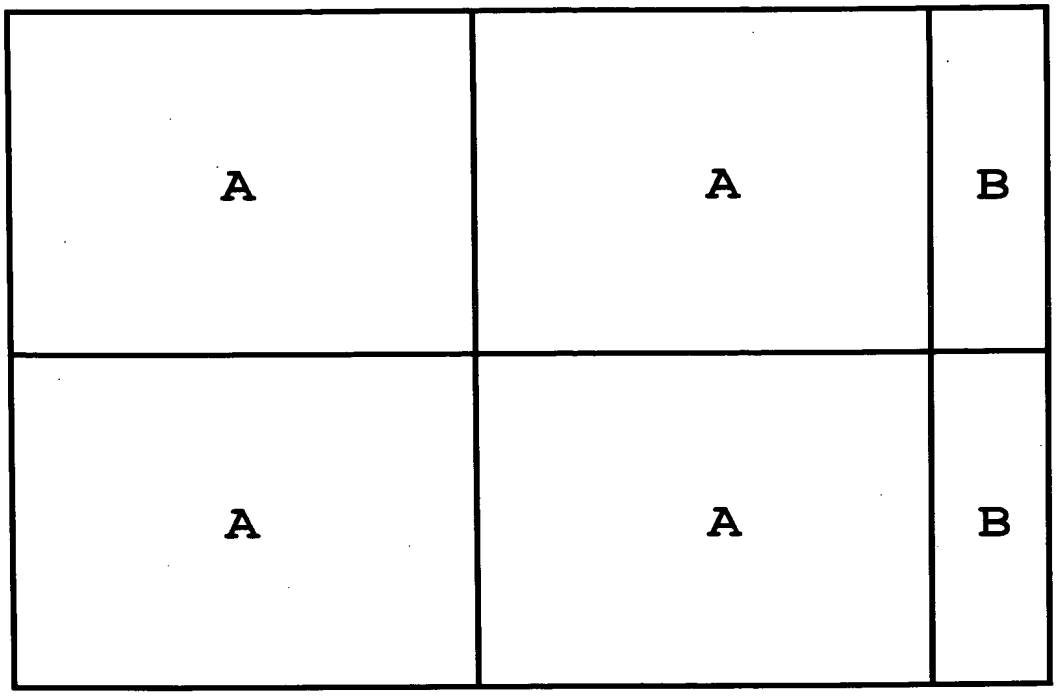


Fig. 22

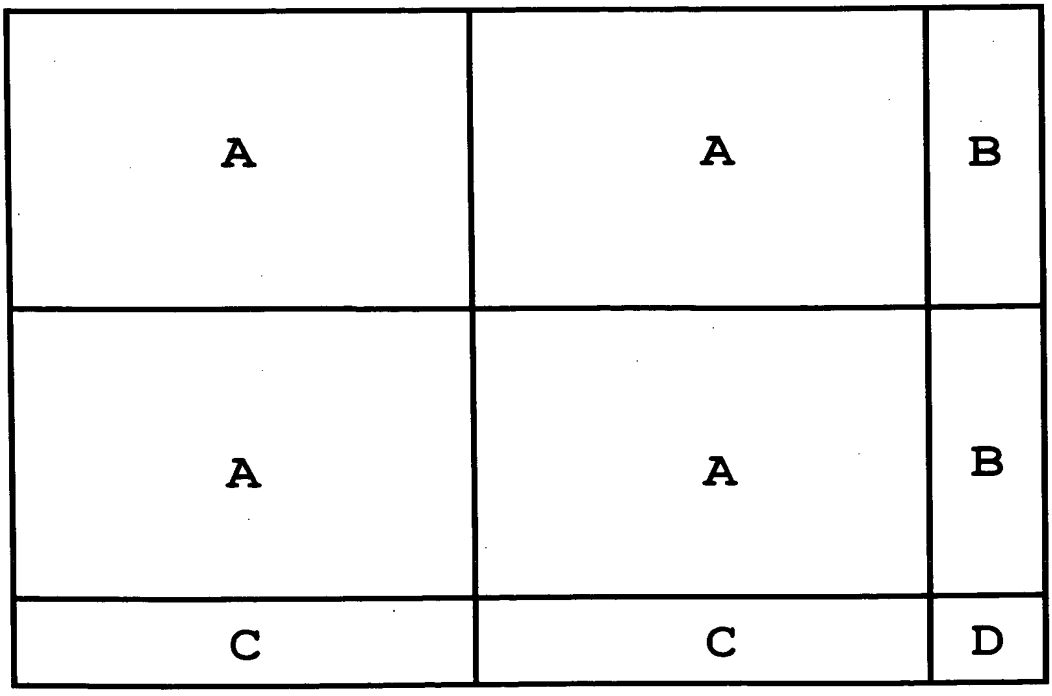
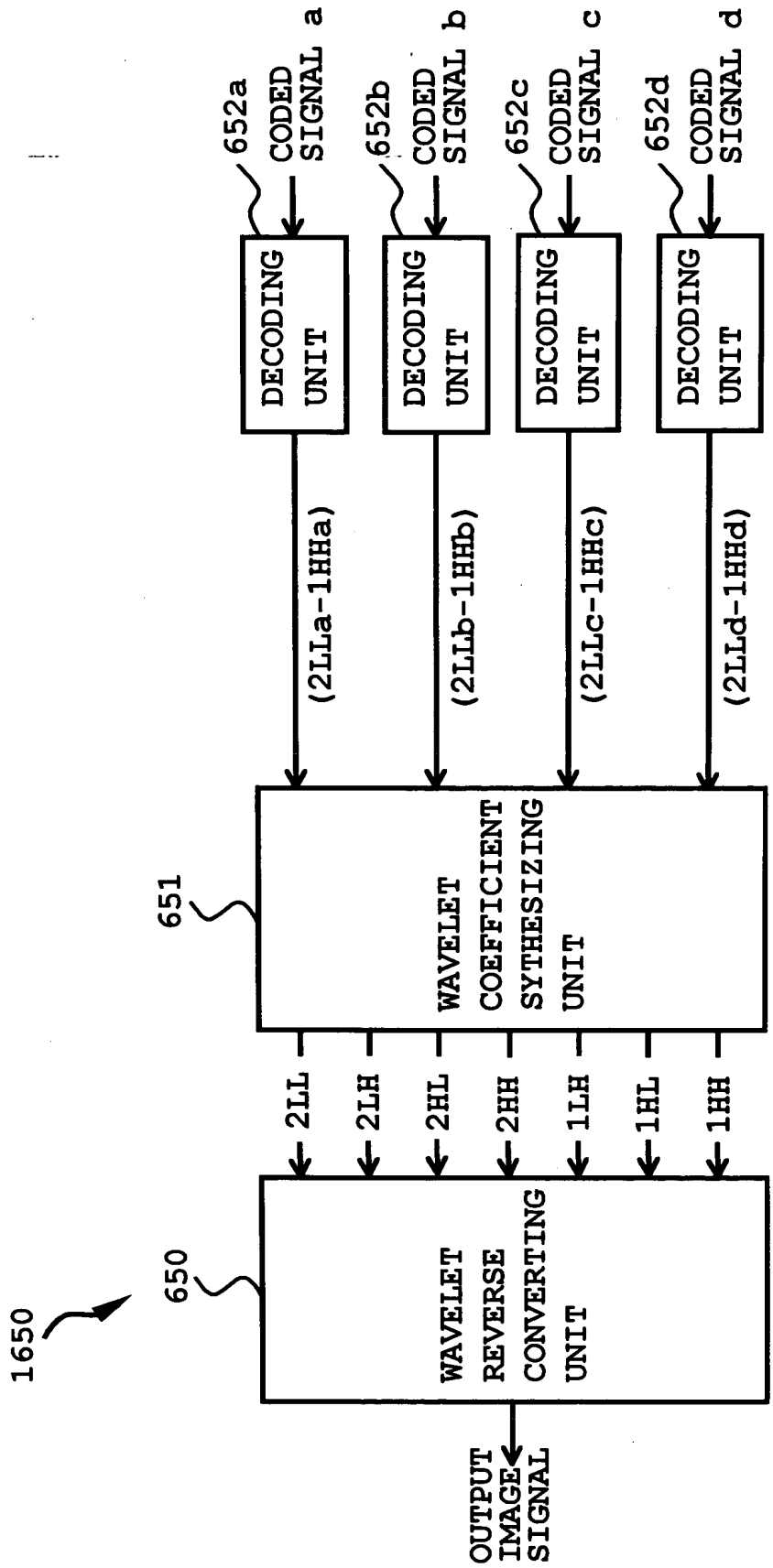


Fig. 23


1650
650
WAVELET REVERSE CONVERTING UNIT
OUTPUT IMAGE SIGNAL
2LL
2LH
2HL
2HH
1LH
1HL
1HH
651
WAVELET COEFFICIENT SYTHESIZING UNIT
(2LLa-1HHa)
(2LLb-1HHb)
(2LLc-1HHc)
(2LLd-1HHd)
DECODING UNIT
DECODING UNIT
DECODING UNIT
DECODING UNIT
652a CODED SIGNAL a
652b CODED SIGNAL b
652c CODED SIGNAL c
652d CODED SIGNAL d

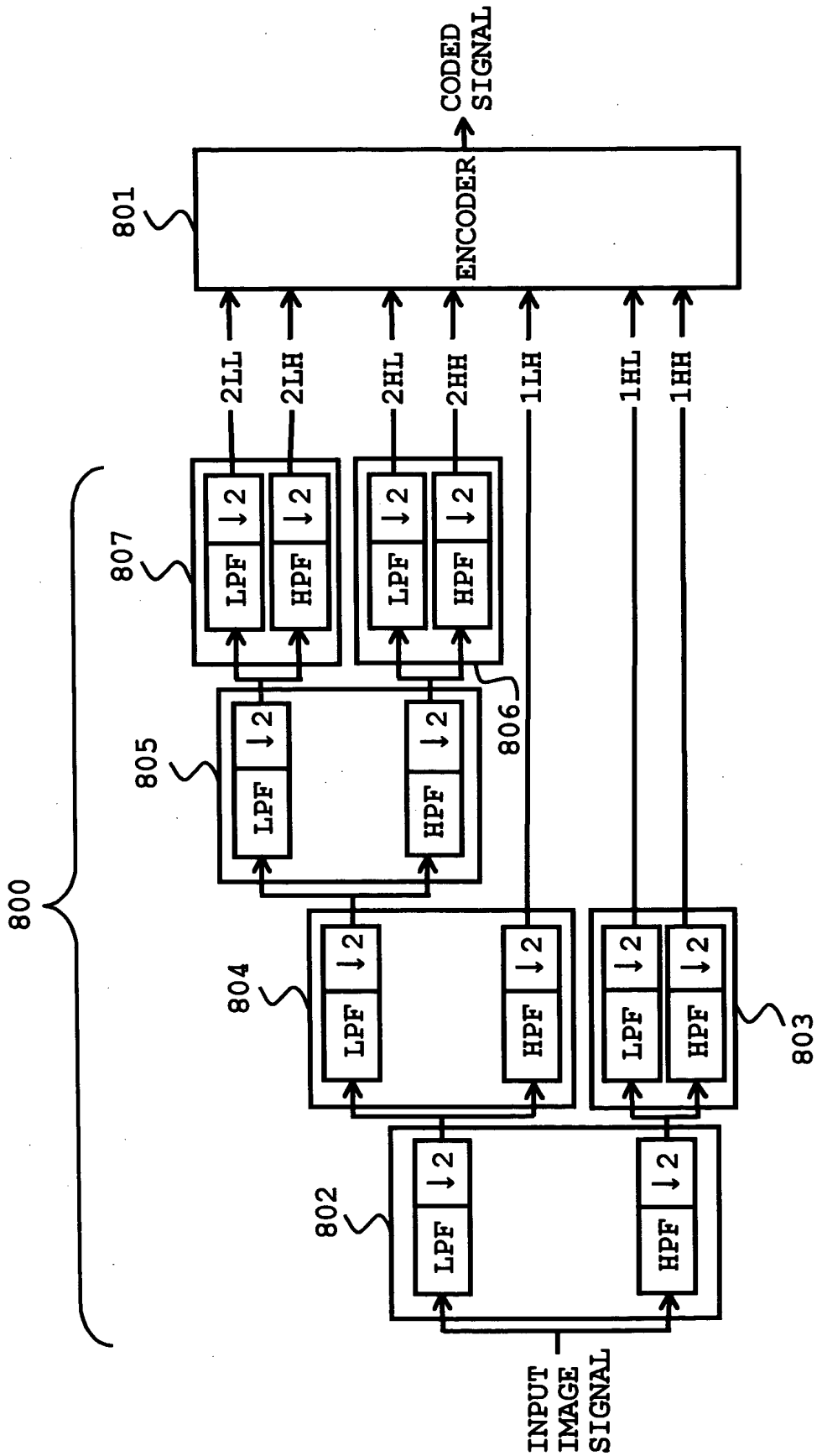
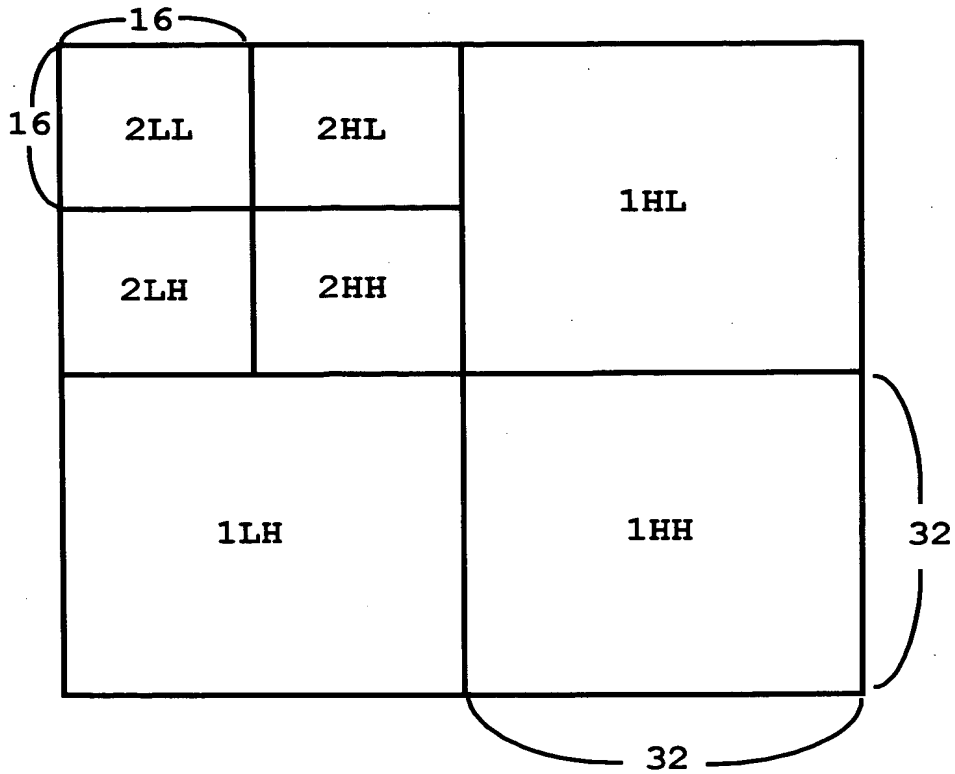


Fig. 24
(PRIOR ART)

Fig. 25



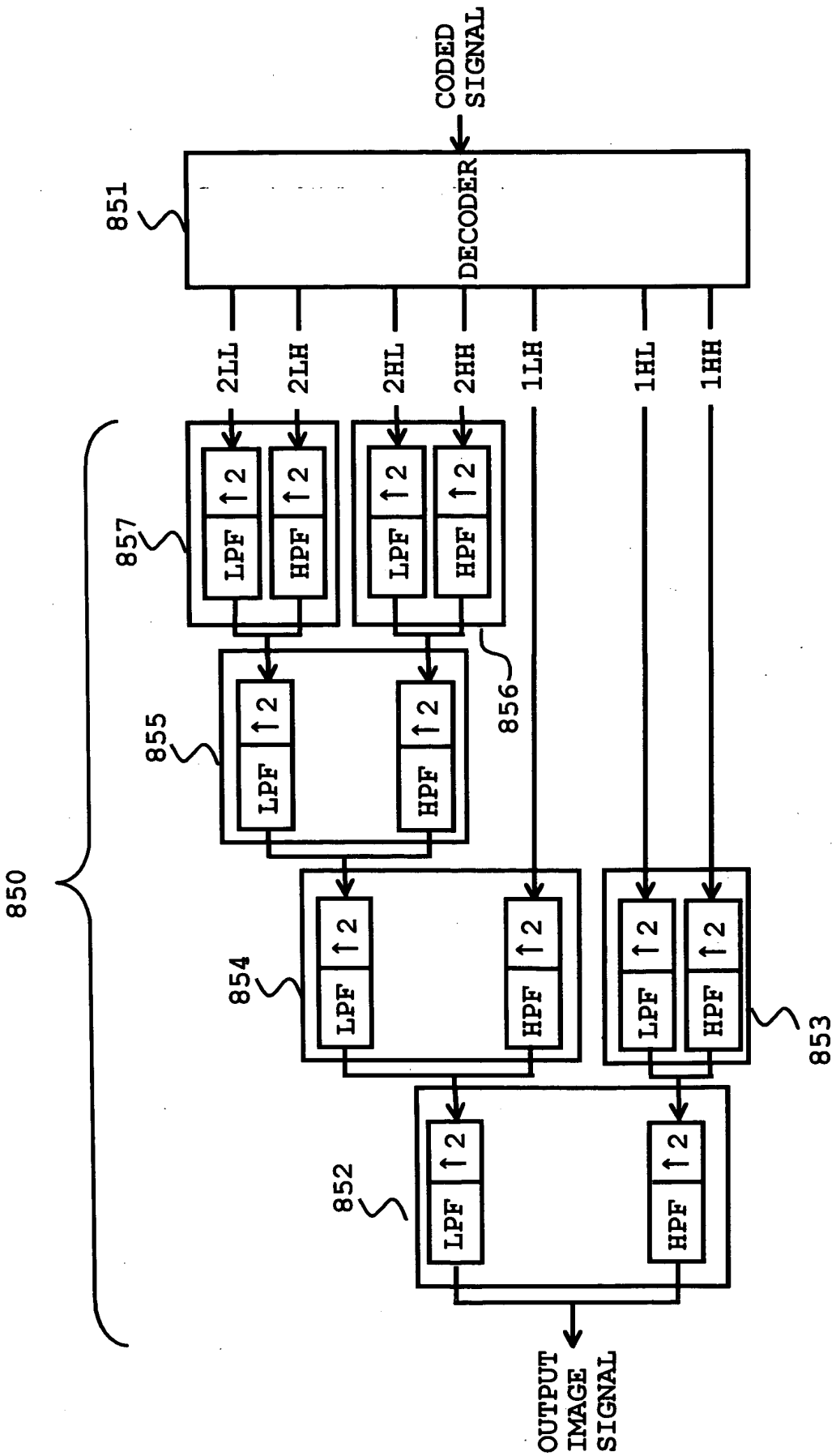


Fig. 26
(PRIOR ART)